## SUBJECT INDEX

Vol. 106A, Nos 1-4

Acetylcholine, 519, 837 N-Acetylgalactosamine, 109, 121 N-Acetylglucosamine, 121, 109 N-Acetyllactosamine, 121, 109 Acipenser guldenstadti, 581 ACTH, 87 Actin, 233 Activity, 19 Adrenal cortex, 87 Aeshna cyanea, 397 AKH-I, 257 **ALAT, 707** Albumen, 701 Alcichthys alcicornis, 25 Alexandrium tamarense, 769 Alkaline phosphatase, 227 Allantoic fluid, 187 Allopurinol, 187 Amiloride, 671 Amino acid synthesis, 49 Amino acid uptake, 719 Ammonia, 187 Anaerobic threshold, 285 Anas platyrhynchos, 57 Anguilla japonica, 367 Animal cell culture, 163 Animal models in toxicology, 163 Anoxia, 463 Antennal gland, 19 Anticoagulant solution, 299 Anticoccidial drugs, 809 Antler cycle, 683 Aplysia, 501 D(-)Arabinose, 373 Arousal, 587 Arrhenius curves, 227 Artemia nauplii, 551 **ASAT, 707** Ascidia ceratodes, 531 Ascophyllum nodosum, 391 ATP, 157 β-ATP, 239 (Ca<sup>2+</sup> + Mg<sup>2+</sup>)-ATPase, 309 Auditory development, 7

B-cell neoplasia, 403 B-cells, 309 Barium, 671 Basolateral membrane, 455 Bioenergetics, 525 Biomphalaria glabrata, 603 Bird migration, 163 Bison bonasus, 653 Blepsias cirrhosus, 25 Blood flow, 1, 61, 649 Body temperature, 167 Bohr-effect, 31 Bombyx mori, 495 Bone-blood flow, 649 Bos taurus, 731 Bovine growth hormone, 635 8-Br-cAMP, 837 Bufo bufo, 793 Bulinus (physopsis) globosus, 373 Bulinus Rohlfsi, 373

Bumetanide, 671
Bungarus multicinctus, 81

1C cells, 495 Ca, 385 Ca2+ paradox, 557 Calbindin, 263 Calcium, 227 Calcium transport, 263 Caloric density, 385 Callopistes palluma, 713 cAMP, 837 Capra hircus, 295 Carbohydrate, 329 Carbohydrate metabolism, 405 Carbohydrate-rich diet, 831 Carcinus maenas, 343 Cardiac output, 277 Catechol estrogens, 57 Cell divisions, 431 Cellobiose, 373 Cenocrinus asterius, 91 Cerebrobuccal connective, 501 Ceuthophilus carlsbadensis, 525 Ceuthophilus conicaudus, 525 Ceuthophilus longipes, 525 Channa maculata, 483 Chasmagnathus granulata, 237, 329 CHH, 343, 405 Chloragogenous tissues, 449 Cholesterol, 749, 799 Cimetidine, 319 Ciona intestinalis, 531 Circadian rhythm, 167 Clarias gariepinus, 313 Clinical pharmacology, 403 Clinical physiology, 403 Coconut oil, 799 Columba livia, 707 Confocal microscopy, 537 Copper, 671 Corn bran hemicellulose, 561 Corneal epithelium, 455 Corpora allata, 43 Corpora cardiaca, 257 Cortisol, 157, 245 Cortisol levels, 641 Coturnix coturnix japonica, 187 CPK. 707 Crassostrea virginica, 769 Creatine kinase release, 557 Creatinine, 707 Crocodylus niloticus, 381 Crustacean hyperglycemic hormone, 405 Cryopreservation, 313 Cultured nerve cells, 109 Cutaneous drinking, 793 Cutaneous oxygen uptake, 547 Cyprinus carpio, 547, 277, 677

Decapod crustaceans, 19 Deinagkistrodon acutus, 81 Dendrolagus goodfellowi, 515 Desferrioxamine, 813 2-Deoxyglucose, 471 Dicentrarchus labrax, 227, 627 Dietary calcium, 803 Dietary protein, 581 Diving, 1 Diving mammals, 1 Dormancy, 701 DPG, 687

Electric shock, 239 Emersion, 237 Emydoidea blandingii, 663 Energy expenditure, 221 Energy metabolism, 595 Enterocytes, 263, 617 Enteromorpha intestinalis, 391 Epidermal epithelium, 759 Epileptic activity, 537 Equus asinus, 479 Erucic acid, 565 Eructation, 731 Erythrocyte potassium polymorphism, 479 Estivation, 701 Estradiol-17β, 57, 367 Estrone, 57 Exercise-stress, 277 Eyestalk ablation, 621

Fasciola hepatica, 305 Fasting, 845 Fe, 385 Fecal sac, 385 Feed intake, 381 Feeding, 793 Feeding behaviour, 501 Feminization, 367 Fingerlings growth rate, 581 Flight effects, 707 Food restriction, 221 Frog kidney, 783 Frog sartorius, 471 Frog taste cells, 37 FSPRL-amide, 195 Fundulus grandis, 251 Fundulus heteroclitus, 743 FXPRL-amide, 195

Gallus domesticus, 221, 263, 799 Gallus gallus, 755 Gas exchange, 413 Gastric acid secretion, 319 Gene expression, 263 Geukensia demissa, 769 **GFR. 15** GH, 381 Gilson differential respirometer, 551 Glial cells, 121 Glucose, 343, 701 Glucose metabolism, 295 Glucose transport, 471, 603 Glucose-6-phosphate isomerase, 313 D(-)Glucuronic, 373 Glycine, 49 [14C]Glycine, 251 Glycine transport, 227 Glycoconjugate, 121 Glycolysis, 405 GnRH. 175 Growing pigs, 565 Growth cones, 109, 149 Growth hormone, 743 Growth hormone receptors, 483 Growth promoting hormones, 251 Growth rate, 367, 621 Gryllus bimaculatus, 43

H<sub>2</sub> antagonists, 319 H+/K+-ATPase, 319 Haem-compounds, 449 Haemocyanin function, 31 Haemolytic activity, 271 HCG, 57 HDL, 565 Heart rate, 65, 183 Heliothis, 195 Helix aspersa maxima, 701 Helix pomatia, 109, 121, 135, 537 Heparin, 355 Hepatic ultrastructural changes, 677 Hibernation, 701 High altitude, 713 Hirudo medicinalis, 149, 239, 595 Homing pigeons, 645, 707 Huso huso, 581 Hypercapnia, 463 Hyperglycemia, 245 Hyperosmotic acclimation, 595 Hyperosmotic stress, 49 Hypertensive rat, 349 Hyperthermia, 707 Hyperthyroid chickens, 823 Hypertrophy, 755 Hypomineralization, 245 Hyposalinity, 65 Hypoxia, 65 Hypoxic boundary layer, 547 Hystrix hodgesoni, 483

125I-bGH, 483
Ictalurus punctatus, 803
IgM, 69
Immunoreactivity, 587
Insulin, 677
Insulin release, 837
Internal gametic association, 25
Intrarumen pressure, 731
Iodine conservation, 15
Iron-dextran, 813
Isoodon macrourus, 515
Isopods, 413
Isoproterenol, 519

Juvenile hormone, 495

Lactate, 285, 343 Lactation, 359 Laser doppler flowmetry, 61 LDH, 707 LDL<sub>2</sub>, 565 Learning and physiological regulation, 163 Lectins, 109, 121 Leptonychotes weddelli, 1 L-Leucine, 809 Leucine amino peptidase, 227 Leucopenia, 581 Leucophaea, 195 LH, 175, 683 LHRH, 57 Liolaemus lizards, 713 Lipid, 329 Lipid metabolism, 561 Lipogenesis, 823 Lipoprotein, 799 Littorina littorea, 391 Littorina obtusata, 391 Liver explants, 823 Locomotor activity rhythm, 43 Locusta, 195 Locusta migratoria, 257

Locustamyotropin, 195 Low ambient temperatures, 87

Macaca mulatta, 61 Macropus giganteus, 515 Macropus rufus, 515 Macrotis lagotis sagitta, 515 Maduromicin, 809 Magnesium, 19, 227 Malate accumulation, 595 Maleate, 783 Maltase, 227 Maltose, 373 Maltotriose, 373 Mamestra, 195 Mammary glucose, 359 D(+)Mannose, 373 Marmota flaviventris, 667 Marsupial, 515 Mast cell, 403 MCHC, 157 Mean body temperature, 667 Megalobulimus oblongus, 831 Melatonin, 645 Metabolic rates, 525, 663 L-Methionine transport, 609 Methoprene, 495 Mg, 385 Micro-cathode oxygen electrode, 551 Microtus pennsylvanicus, 571 Middle-ear development, 7 Milk fat, 565 Moderate exercise, 641 Molt. 667 Monensin, 809 Monoamine turnover, 845 Morone chrysops, 627 Morone saxsatilis, 627 Mya arenaria, 769 Myelo-erythroid, 449 Myoblasts, 233 Myosin, 233 Mytilus edulis, 769

N, 385
Na, 385
Na, 385
NaCl flux, 671
NaK ATPase, 783
Na: K pump, 455
Na<sup>+</sup>, K<sup>+</sup>-ATPase, 621
Naja naja atra, 81
Neobellieria bullata, 233
Neonate physiology, 403
Neuraminic, 121
Neurobiology of invertebrates, 163
Neuropeptide Y, 403, 845
Nicarbazine, 809
Nidamental glands, 739
Nitrogen insufflation, 731
NMR, 515

Obelliena, 195
1,25 (OH)<sub>2</sub>D<sub>3</sub>, 75
Oleic acid, 397
Oncorhynchus keta, 69
Oncorhynchus mykiss, 183
Oogenesis, 431
Opioid peptide, 587
Oral mucosa, 61
Orchestia cavimana, 75
Orconectes limosus, 343
Oreochromis aureus, 355
Orotic acid, 561

Osmoregulatory responses, 245 Osseous tissue, 649 Otoliths, 209 Ouabain, 617, 783 Oubain, 603 Oxygen consumption, 97, 103, 551, 667 Oxygen dissociation curves, 687, 775 Oxygen saturation, 775 Oxygen transport, 695

31P-NMR, 239 Pagrus auratus, 157 Pancreas, 837 Patella granularis, 65 PC, 227 PE, 227 Penaeus aztecus, 49 Penaeus californiensis, 97, 103, 271, 299 Penaeus monodon, 621 Peptidergic interneuron, 135 Peptidergic neurons, 121 Periplaneta, 195 Persistent bursting activity, 135 Petromyzon marinus, 483 pH, 671 Phalloidin staining, 233 Phallusia julinea, 531 Pharyngeal movements, 463 Phascolarctis cinereus, 515 Phentolamine, 519 Phenylarsine, 471 Phenylephrine, 519 Pheromone, 195 Phosphate metabolism, 725 Phosphatidylinositol, 227 Phosphatidylserine, 227 Pi, 239 Pituitary, 175 Placental cells, 291 Placopecten magellanicus, 769 Plastic deformation, 91 Pleuronectes americanus, 483 Polypnea, 221 Polysaccharides, 701 Postembryonic development, 43 Potamonautes warreni, 31 Potassium channels, 149 Potassium uptake, 617 Pristidactylus species, 713 Proline, 49 Prophenoloxidase, 299 Protein synthesis, 251, 635 Proteolysis, 403 Proteolytic activity, 627 Pseudoblennius cottoides, 25 Pseudopleuronectes americanus, 671 Pudu (pudu), 683

Rana catesbeiana, 37, 489, 725 rbGH, 381 Rectal temperature, 221 Regulation and control mechanisms, 163 Respiration rates, 391 Restricted ration, 587 Retinol, 749 Retzius cells, 149 Robustus erubescens, 295

Salinity, 103 Salmo salar, 641 Salmo trutta, 695

**PUFA**, 227

Pyura stolonifera, 531

Sarcophilus harrisii, 515 Schistosoma haematobium, 373 Sciaenops ocellatus, 209 Seasonal adaptations, 695 Seasonal response, 175 Seasonal variation, 683 Sepia officinalis, 739 Serine-protease, 271 Serum lipoproteins, 565 Sex differences, 519 Sialia sialis, 385 Siphonaria capensis, 65 Size, 97 Skin blood flow, 349 Skin temperature, 653 Slow-tonic skeletal, 755 Sodium and potassium balance, 571 Sodium nitrate, 519 Somatic growth rate, 209 Sound conduction, 7 Sparus aurata, 245, 609 Spermatozoa, 25, 313 Spermiogenesis, 495 Sphingomyeline, 227 Starvation, 831 Starved frogs, 725 Stress, 587 Succinate fermentation, 595 Sucrase, 227 Sugar chemoreception, 373

T-F antigen, 109
Tachyglossus aculeatus, 87
Taste cell, 489
Taurine, 49
Taurine regulation, 309
Temperature, 31, 97, 103, 701
Testes, 175
Testosterone, 683
Thermoregulation, 167, 221
Thyroid weights, 15

Treadmill exercise, 285
Trehalase, 227
Triacylglycerol, 397
Trichosurus vulpecula, 167, 515
Triglycerides, 719
Triidothyronine, 823
Trimeresurus mucrosquamatus, 81
Trionyx sinensis, 463
Trypanosoma cruzi, 813
Tunichrome, 531
Tympanic membrane, 7

Ultradian oscillation, 183 UMBGE-4, 759 Urate, 187 Urae, 187 Uric acid, 707 Uridine, 305 Ursus americanus 175

Vanadium, 531
Vascular reactivity, 519
Vegetable oils, 565
Vegetation diets, 571
Venomous snakes, 81
Ventilation, 277, 547
Vipera russelli formosensis, 81
Vitamin A, 749
VO<sub>2</sub>, 769
Voltage clamping, 37
Volume regulation, 595

Water balance, 793 Water loss, 187 Water permeability, 515 Water relations, 413 Weddell seals, 1 Winter-acclimatized carp, 677

Xenopus oocyte, 431

## **AUTHOR INDEX**

Vol. 106A, Nos 1-4

Aardt W. J. van, 31 Agar N. S., 515 Alaviuhkola T., 565 Allen P., 355 Altrup U., 537 Amat F., 551 Amthauer R., 677 Anderson H. R., 305 Antila P., 565 Armitage K. B., 667 Aro A., 565 Aulie A., 381 Ausman L. M., 749

Backus R. C., 731 Badía P., 609 Baggott G. K., 187 Bahr J. M., 175 Balocco C., 227 Bambirra E. A., 813 Bamford D. R., 305 Bates G. P., 755 Baumgardner K. R., 649 Baumiller T. K., 91 Becker W., 603 Benga G., 515 Bianchi C. P., 471 Bishop J. S., 49 Blackburn M., 195 Blomqvist S. M., 565 Boesgaard L., 641 Bogé G., 227 Bogner P., 479 Bohuon C., 845 Bolaños A., 609 Bollard B. A., 157 Bonnefoy-Claudet R., 701 Booz G. W., 471 Boucaud-Camou E., 739 Boyd A., 221 Bradfield P. M., 187 Bray M. M., 257 Brichon G., 227 Bride J., 701 Brown G. M., 645 Bubenik G. A., 683 Burton R. S., 49 Butler B. O., 663

Callaerts P., 233 Cameron I. L., 479 Canady J. W., 61 Cao M. L., 687 Carefoot T. H., 413 Carlisle A., 587 Cartheuser C.-F., 775 Castillo M., 799 Čemerikić D., 783 Cepon G., 167 Chapman B. E., 515 Charney A. N., 671 Cheng C. H. K., 483 Cherepanova V., 1 Chiba A., 239, 725 Chiba H., 367 Chiba Y., 43

Chichibu S., 239, 725 Christian D. P., 571 Chu-Chien Huang, 81 Clerbaux Th., 687 Cohen Y. E., 7 Colvin H. W. Jr, 731 Cozzi S., 609 Crisp D. J., 391 Cvetković D., 783

Da Silva R. S. M., 831 Daniels S., 557 De Loof A., 195, 233 De Santis A., 501 De Vera L., 183 DePeters E. J., 731 Detry B., 687 Diaz M., 609 Djamgoz M. B. A., 759 Doan D. E., 7 Duncan C. J., 557

Earley F. G. P., 759 El-Shaikh K., 603 Elsner R., 1 Eshel A., 627

Fairweather I., 305
Fan-Hua Nan, 621
Ferguson G. P., 501
Fernandez-Llebrez P., 245
Figueroa J., 677
Filipović D., 783
Finney D. A., 349
Fiore L., 501
Fischer E., 449
Fon-Yi Yin 81
Fournié J., 75
Frans A., 687
Freudenberger D. O., 295
Fuda H., 69
Fuiman L. A., 209

Gallagher C. H., 515 Garcia-Peregrin E., 799 Gatlin D. M. III, 803 Gautron J., 319 Gemmell R. T., 167 George J. C., 645, 707 Geppetti L., 501 Gershanovich A. D., 581 Gill J., 653 Goldsworthy G. J., 257 Gómez T., 609 Gomot L., 701 Gonzalez G., 809 Graham T. E., 663 Griffith R. W., 743 Guinotte F., 319 Gustin P., 687 Guzmán M.-A., 271, 299

Hamaguchi M., 725 Hara A., 69 Harpaz S., 627 Harth C. J., 571 Hartley R., 759 Hatano S., 635 Hawkins C. J., 531 Hayami K., 367 Hebert J. R., 749 Hegsted D. M., 749 Henry J., 739 Hoff G. R., 209 Horan K. T., 175 Howard J. E., 759 Hua Yi-Min, 463 Hungerford B. S., 385

Ilundáin A., 617 Itabashi H., 719 Iwatsuki K., 367

Jacquot C., 845 Jakobsen K., 359 Jauhiainen M., 565 Jessus C., 431 Jie-Shen Hwu, 81 John T. M., 645, 707 Johnson G. K., 61, 649 Johnson W. T., 649 Jørgensen C. B., 793

Kaciuba-Uściłko H., 285 Kajiura Z., 495 Kameoka K.-I., 719 Kanui T. I., 381 Katovich M. J., 519 Kawamura H., 69 Kawauchi H., 743 Keable S. J., 263 Keller R., 343, 405 Kellermayer M., 479 Kelly S. T., 349 Kemppinen A., 565 Kimwele C. N., 381 Kiselev G. A., 581 Kita K., 635 Kohlbrecher A., 671 Kolb H.-A., 149 Komnick H., 397 Kononenko N. I., 109, 121, 135 Koval L. M., 109, 121 Koya Y., 25 Kpikpi J. E., 373 Krauskopf M., 677 Kuchel P. W., 515

LaBarbera M., 91 Langfort J., 285 Lavoie K. H., 525 León G., 677 Lesser M. P., 391 Lindner P., 627 Lopez J. M., 799 Lorenzo A., 609 Lutsik M. D., 121

Ma M., 195 MacLeod M. G., 221 Mancera J. M., 245 Manning T. E., 571

Marsden I. D., 769 Marshall D. J., 65 Martin W. G., 309 Maxwell M. H., 587 McCorquodale C. C., 221 McDonald I. R., 87 McIntyre S. F., 349 McQuaid C. D., 65 Meier A. H., 251 Meulemans W., 233 Meyran J.-C., 75 Milovanović S., 783 Miseta A., 479 Mitchell M. A., 263, 587 Miyamoto T., 37, 489 Miyasaka H., 561 Montero M. C., 617 Moriyama S., 743 Morritt D., 19 Munehara H., 25 Munoz P., 683 Munsch T., 149 Muramatsu T., 635

Nagae M., 69 Nagy G., 479 Nakagaki M., 495 Nazar K., 285 Negatu Z., 251 Nelson R. A., 175 Neshumova T., 1 Newton S., 627 Ng T. B., 57, 483 Nicolio J. R., 813 Nicolio J. R., 813 Nicolosi R. J., 749 Nieczaj R., 595 Nielsen M. E., 641 Nielsen M. O., 359 Nolan J. V., 295 Northup D. E., 525 Nuñez H., 713 Nys Y., 319

Ocampo L., 97 Ochoa J.-L., 271, 299 Okada S.-I., 43 Okada Y., 37, 489 Okumura J.-i., 635 Oliveira K., 743 Ooi V. E. C., 57 Orosco M., 845 Ozon R., 431

Pace G. L., 385 Paemen L., 195 Pages N., 845 Palacios L., 695 Palmer S. S., 175 Pankhurst N. W., 157 Parry D. L., 531 Peacock M. A., 263 Pedrosa M. L., 813 Pelkonen A. M., 671 Peranzi G., 319 Perez-Figares J. M., 245 Pesquero J., 695 Petrović S., 783 Pieneman A. W., 501 Pilis W., 285 Ping-Chung Liu, 621 Planas J., 695 Porter D. W., 309 Prats M. T., 695 Priede I. G., 183

Raina A., 195 Recabarren S., 683 Reinach P., 455 Rendell M. S., 349 Reves E., 683 Rideau N., 837 Riera M., 695 Rivera J. A., 103 Robert J. C., 319 Robertson G. W., 587 Roche H., 227 Rodriguez-Vico F., 799 Rogers E. J., 749 Romero F., 677 Rosebrough R. W., 823 Rosenkilde P., 641 Rosenmann M., 713 Rossi I. C., 831 Rouch C., 845 Ruiz G., 713

Sabrah T., 749 Salsbury C. M., 667 Santos E. A., 329, 337, 343, 405 Sato T., 37, 489 Saunders J. C., 7 Savory C. J., 221, 587 Scarpa J., 803 Schlue W.-R., 149 Schmitt A. S. C., 329, 337 Schoofs L., 195 Schulze-Bonhage A., 537 Sellem E., 75 Sernia C., 87 Seto N., 43 Shafi S., 257 Shechtman O., 519 Shimomura S., 635 Shiu-Nan Chen, 621 Shou-Hsian Mao, 81 Shumway S. E., 391, 769 Shyn-Shin Sheen, 621 Siebers D., 603 Silva Marcelo, E., 813 Silva Marcio, E., 813 Silva M. E. C., 813 Simon J., 837 Smirnoff P., 627 Smith M. W., 263 Soumarmon A., 319 Sousa C. R., 759 Speckmann E.-J., 537

Squier C. A., 61 Stegeman J. J., 743 Steyn G. J., 313 Studier E. H., 385, 525 Sugimura K.-I., 719 Swinehart J. H., 531 Szuch E. J., 385

Tajima K., 719 Takács I., 479 Takada R., 719 Takahashi H., 25 Takano K., 25 Takashima M., 725 Takeda T., 277, 547 Takei R., 495 Tarvin J. T., 455 Taylor A. C., 551 Taylor S., 385 Taylor S. W., 531 Terada T., 43 Terando J. V., 349 Thomas J. D., 373 Tips A., 195 Todd G. L., 649 Tomioka K., 43 Torres P., 683 Turvey A., 263

Vadstrup S., 15 Van der Bank F. H., 313 Van der Walt L. D., 313 Vargas-Albores F., 271, 299 Varó I., 551 Vera M. I., 677 Vieira E. C., 813 Vieira L. Q., 813 Villanueva J., 677 Villarreal H., 97, 103 Vinardell M. P., 809

Wachtmann D., 397 Wang Zhao-Xian, 463 Wells R. M. G., 157 Wheatley D. N., 479 Wheeler C. H., 257 Wittkowski W., 537 Wojtyna J., 285 Woo N. Y. S., 483 Wright G. M., 483 Wu J. C. Y., 263

Yamamoto T., 291 Yamauchi K., 69, 367 Yao O., 845 Yavorskaya E. N., 109, 121 Yaw-Wen Guo, 81 Yie S. M., 645

Zafra M. F., 799 Zarzeczny R., 285 Zerbst-Boroffka I., 595

354

Spicer J. I., 19

